

MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Secretary Shawn Hamilton

From: Periodic Scientists Conference Call Participants
 Kevin Godsea & Avery Renshaw - J.N. "Ding" Darling National Wildlife Refuge (NWR) Complex
 Holly Milbrandt & Dana Dettmar - City of Sanibel
 Lesli Haynes & Lisa Kreiger - Lee County
 Harry Phillips & Maya Robert - City of Cape Coral
 Leah Reidenbach, Rick Bartleson PhD, & Matt Depaolis - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **January 3 - 9, 2023**

This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity, and function of the system.

Caloosahatchee Conditions Summary: Flow to the Caloosahatchee Estuary had a 7-day average of **1,584 cfs** at **S-79** with a 7-day average of **1,055 cfs (67%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,741 cfs and has been in the optimum flow envelope (750 – 2,100 cfs; RECOVER 2020) for 11 days.**

Recommendation: To keep the Caloosahatchee River and Estuary in the optimum salinity envelope and to avoid unnecessary stress, we encourage the Corps to maintain flows within the RECOVER 2020 optimum flow envelope of 750 – 2,100 cfs at S-79 for the Caloosahatchee Estuary.

USACE Action: With Lake Okeechobee in the Intermediate sub band and normal to wet tributary hydrologic conditions and weather forecast, LORS08 Part D currently suggests up to 4,000 cfs at S-77. On 12/3/22 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to a seven-day average pulse release of 2,000 cubic feet per second. No lake releases are planned for the St. Lucie Estuary. The USACE is utilizing a make-up release tool which allows them to make releases at levels lower than suggested in LORS08 and bank the volume not released for beneficial use throughout the dry season.

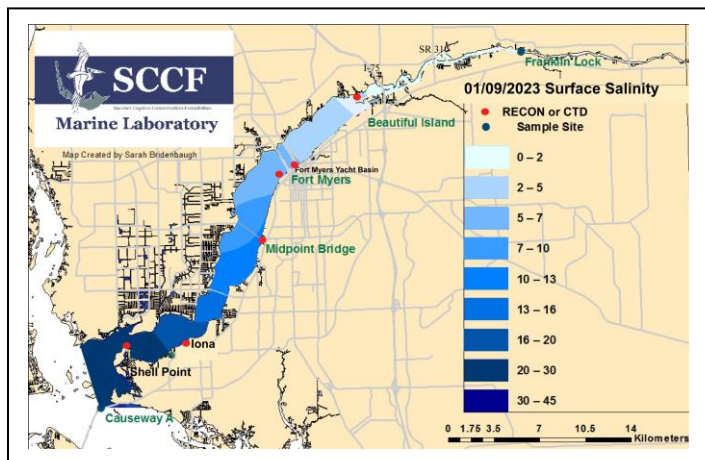
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **22,271 AF** with **13,392 AF** to the Caloosahatchee through **S-77**, **56 AF** through **S-310** in Clewiston, and **8,805 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **26,985 AF** (26,955 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **30 AF** from **C10A**. Water conservation areas received flows of **60 AF**, **0 AF**, and **2,822 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **13,892 AF**.

Lake Level: 16.30 ft (Intermediate sub-band) Last Week: 16.35 ft Last Year: 15.29 ft

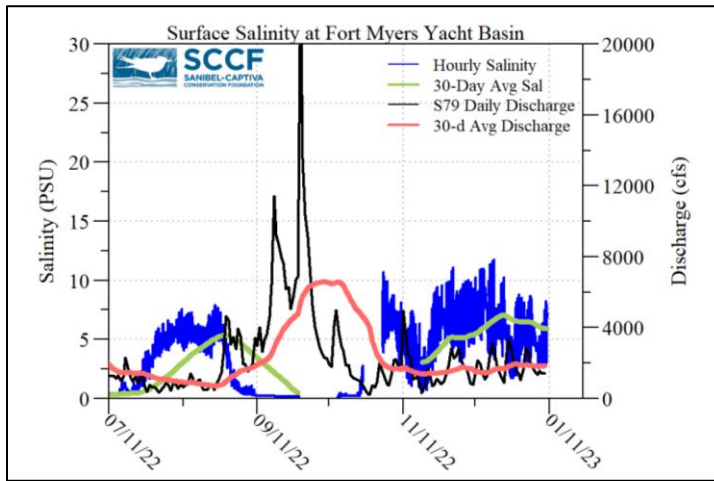
Lake Okeechobee Inflow: 1605 cfs Lake Okeechobee Outflow: 1405 cfs

Weekly Rainfall Total: WP Franklin: 0.01" Ortona: 0.00" Moore Haven: 0.00"

7-Day Lake Recession Rate: -0.05 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/3/22	2036	1528	1411
1/4/22	1699	961	811
1/5/22	1521	971	709
1/6/22	1318	1056	734
1/7/22	1556	894	1054
1/8/23	1396	921	754
1/9/23	1561	1155	1279
7-day avg	1584	1055	965



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.67	>2.2	2.2	< 18
Causeway	1.95	> 2.2	1.8	< 5

25% I_z is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.
^m measured, ^c calculated

Cyanobacteria Status: On 1/9/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* upstream of the Franklin Locks and at the Davis Boat Ramp as sparse specks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.8 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 25 psu, within the optimal range for oysters and seagrass. *Prorocentrum* was the dominant net plankton at the Causeway on 1/9/23 (30,000 cells/L) while *Skeletonema* was dominant (125,000 filaments/L) on 1/5 and 1/6/23.

Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.4 – 1.2 [0.3 – 1.4]	4.8 – 6.7	-----	6.3
Fort Myers Yacht Basin	2.7 – 7.8 [2.0 – 7.5]	-----	-----	-----
Shell Point	15 – 32 [15 – 31]	6.1 – 7.8	90.5	1.5
McIntyre Creek	27.9 – 31.6 [-----]	2.5 – 8.4	-----	-----
Tarpon Bay	27.8 – 33.5 [-----]	5.7 – 7.7	-----	-----
Wulfert Flats	29.5 – 31.4 [-----]	4.6 – 9.1	-----	2.6 – 22.2

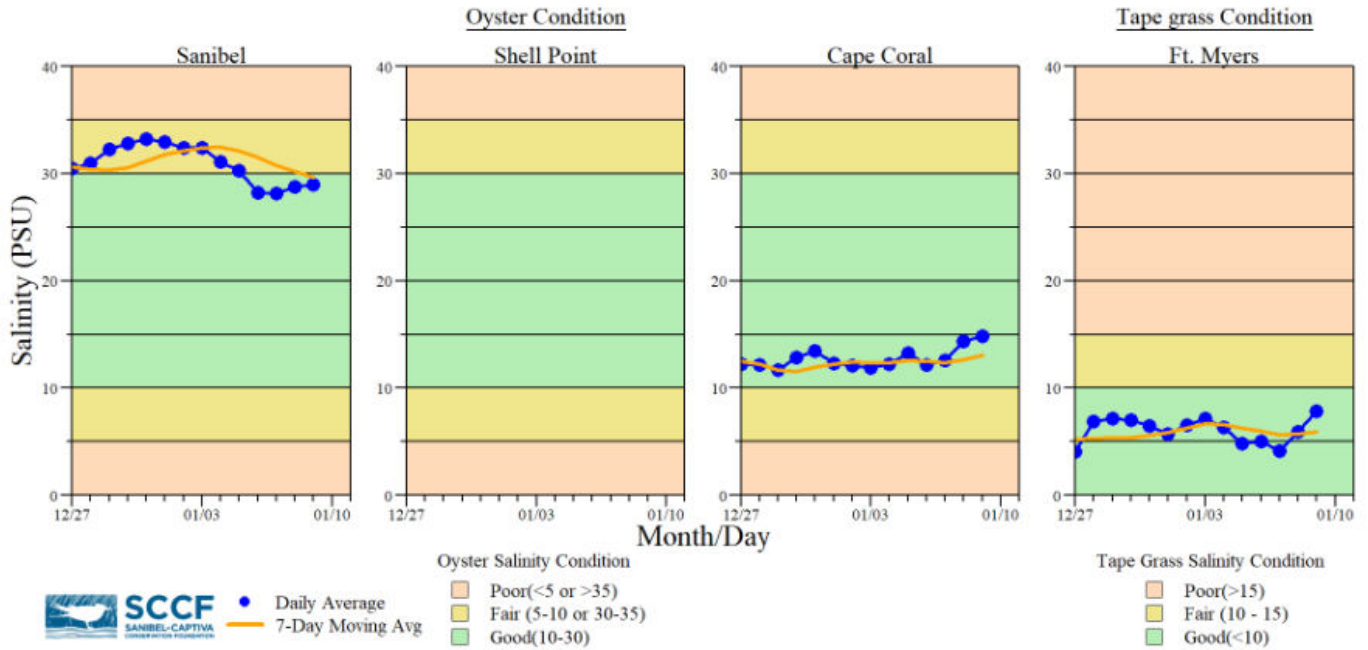
Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30
^b Dissolved O₂ target values: all sites > 4
^c FDOM target values: BI < 70, FM < 70, SP < 11
^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
^e Single sonde lower and surface layer or surface grab lab measurement
 ----- no data

Red Tide: On 1/6/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was detected in 59 samples collected along Florida's Gulf Coast over the past week. Bloom concentrations (>100,000 cells/liter) were present in nine samples: one offshore of Pinellas County, one in Hillsborough County, four in Manatee County, two in Sarasota County, and one offshore of Charlotte County.

In Southwest Florida over the past week, *K. brevis* was observed at background to medium concentrations in and offshore of Pinellas County, medium concentrations in Hillsborough County, background to medium concentrations in Manatee County, background to medium concentrations in Sarasota County, low and high concentrations in and offshore of Charlotte County, and **background to low concentrations in and offshore of Lee County.**

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 2 patients with toxicosis symptoms: 1 adult anhinga (died) and 1 adult brown pelican (still at CROW).

Beach Conditions: The City of Sanibel reported 10 deceased birds found on the beach during a beach cleanup including 1 double crested cormorant, 3 brown pelicans, 2 royal terns, 2 laughing gulls, 1 greater yellowlegs, and 1 unknown fowl. SCCF reported 1 deceased common loon on Bunche Beach on 1/9/23. (Cause unknown.)



Daily average bottom salinity data for the last 14-days from sampling locations within the tidal Caloosahatchee River Estuary relative to oyster health (Sanibel, Shell Point and Cape Coral) and tape grass (*Vallisneria americana*) health (Ft. Myers only) conditions.

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 1/9/23 at 12:25 PM on a rising tide (0.7 ft). [Lighthouse Beach Park Virtual Tour.](#)